



# Maths

## Measurement



# wildlife Explorer

twinkl



# Aim

- I can convert metric measures involving length.

# Success Criteria

- I can convert from millimetres to centimetres and vice versa.
- I can convert from centimetres to metres and vice versa.
- I can compare and order mixed metric measurements of length.

# Nearest to Three Metres



In pairs, take turns to roll a dice three times. With each roll, decide whether to place the number you roll in the hundreds, tens or ones place.

## Hundreds, Tens and Ones Place Value Grid

Hundr

Ones

Th  
m

The measurement I  
made was 262cm.

Louise's number was 125cm **more** than 3 metres. Sam's number was 38cm **less** than 3 metres, so Sam would score a point.

# Spider Sizes



Sami is a wildlife explorer who has been collecting data about animals.



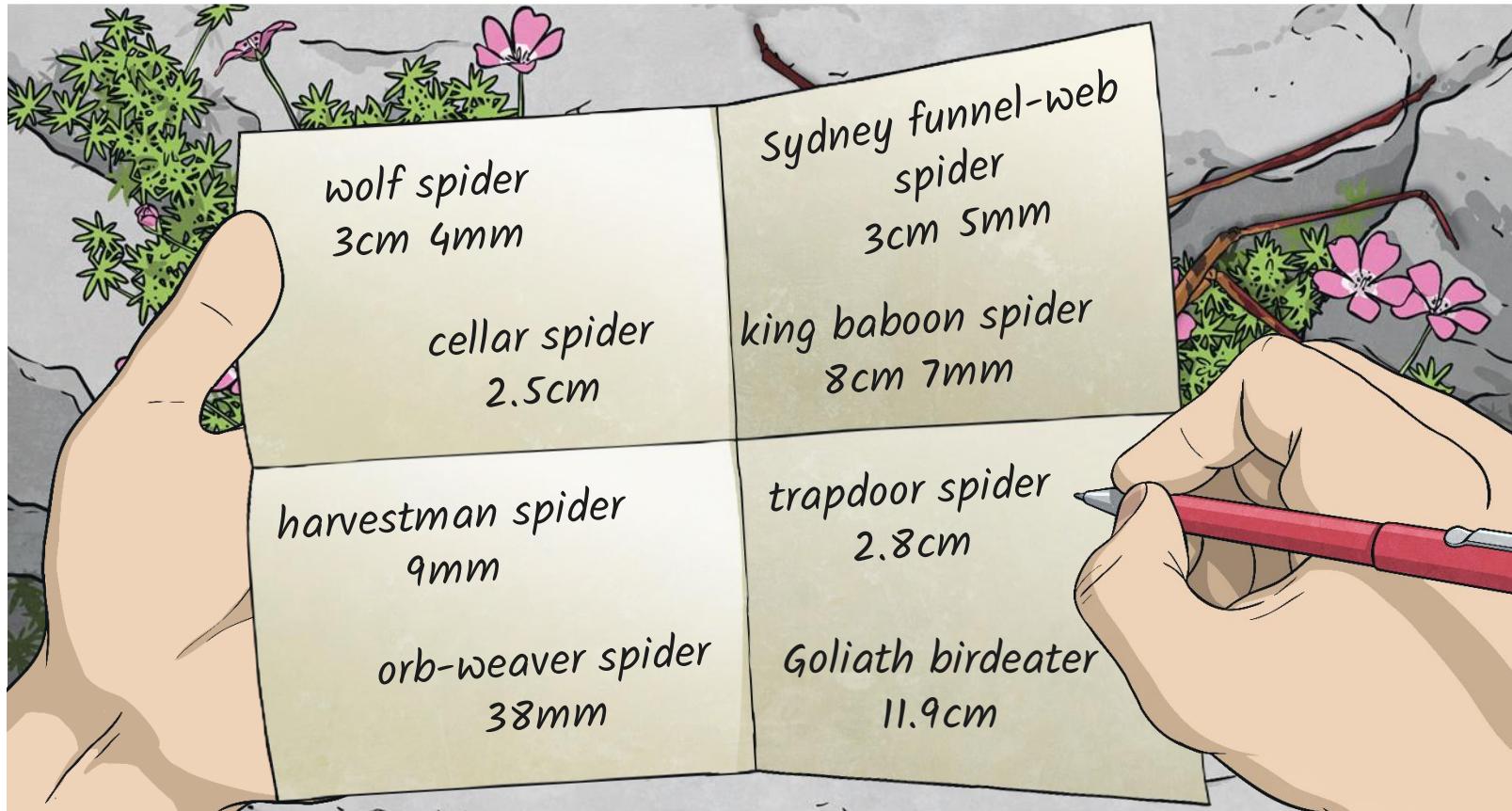
**His first set of data is  
about spiders.**



# Spider Sizes

There are over 40,000 different species of spiders in the world.

They are found in many species from deep Antarctica.





# Spider Sizes

To double this easier, we can convert the centimetres into millimetres given they are in the same unit.

How many millimetres are in one centimetre?

$$1\text{cm} = 10\text{mm}$$

How do we convert centimetres to millimetres?

We multiply by 10.

To multiply by 10, each digit moves one place to the left:

hundreds	tens	ones	tenths

8 • 7



# Spider Sizes

Convert these measurements from centimetres to millimetres.

Centimetres	Millimetres	Centimetres Millimetres
6.8cm	68mm	6cm 8mm
5.1cm	51mm	5cm 1mm
4.2cm	42mm	4cm 2mm

There are 10mm in 1cm.  
So, for every 1cm, count 1cm.  
How many cm are there?

8cm

Fill in the last column in the table.

What do we do with the 4mm that are left over?  
There aren't enough to make a whole centimetre.  
We write them as millimetres on their own.

84mm =  
8cm 4mm



# Spider Sizes

We could also convert the measurements that were given in millimetres into centimetres.

How many millimetres are in one centimetre?

$$1\text{cm} = 10\text{mm}$$

How do we convert millimetres to centimetres?

**We divide by 10.**

To divide by 10, each digit moves one place to the right:

hundreds	tens	ones	tenths
	5	3	•

5

3 •



# Spider Size Table

Use what you have learned to fill in the gaps in the **Spider Size Table**.

Average Body Lengths of Spiders

Spider	Centimetres	Millimetres	cm and mm
king baboon spider	8.7cm	87mm	8cm 7mm
Sydney funnel-web spider	3.5cm	35mm	3cm 5mm
trapdoor spider	2.8cm	28mm	2cm 8mm
harvestman spider	0.9cm	9mm	0cm 9mm
cellar spider	2.5cm	25mm	2cm 5mm
wolf spider	3.4cm	34mm	3cm 4mm
orb-weaver spider	3.8cm	38mm	3cm 8mm
Goliath birdeater	11.9cm	119mm	11cm 9mm



# Spider Size Table

Compare the average body lengths of the spiders using < or >:

**Table**

## Average Body Lengths of Spiders

Spider	Centimetres	Millimetres	cm and mm
king baboon spider	8.7cm	87mm	8cm 7mm
Sydney funnel-web spider	3.5cm	35mm	3cm 5mm
trapdoor spider	2.8cm	28mm	2cm 8mm
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Goliath birdeater	11.9cm	119mm	11cm 9mm

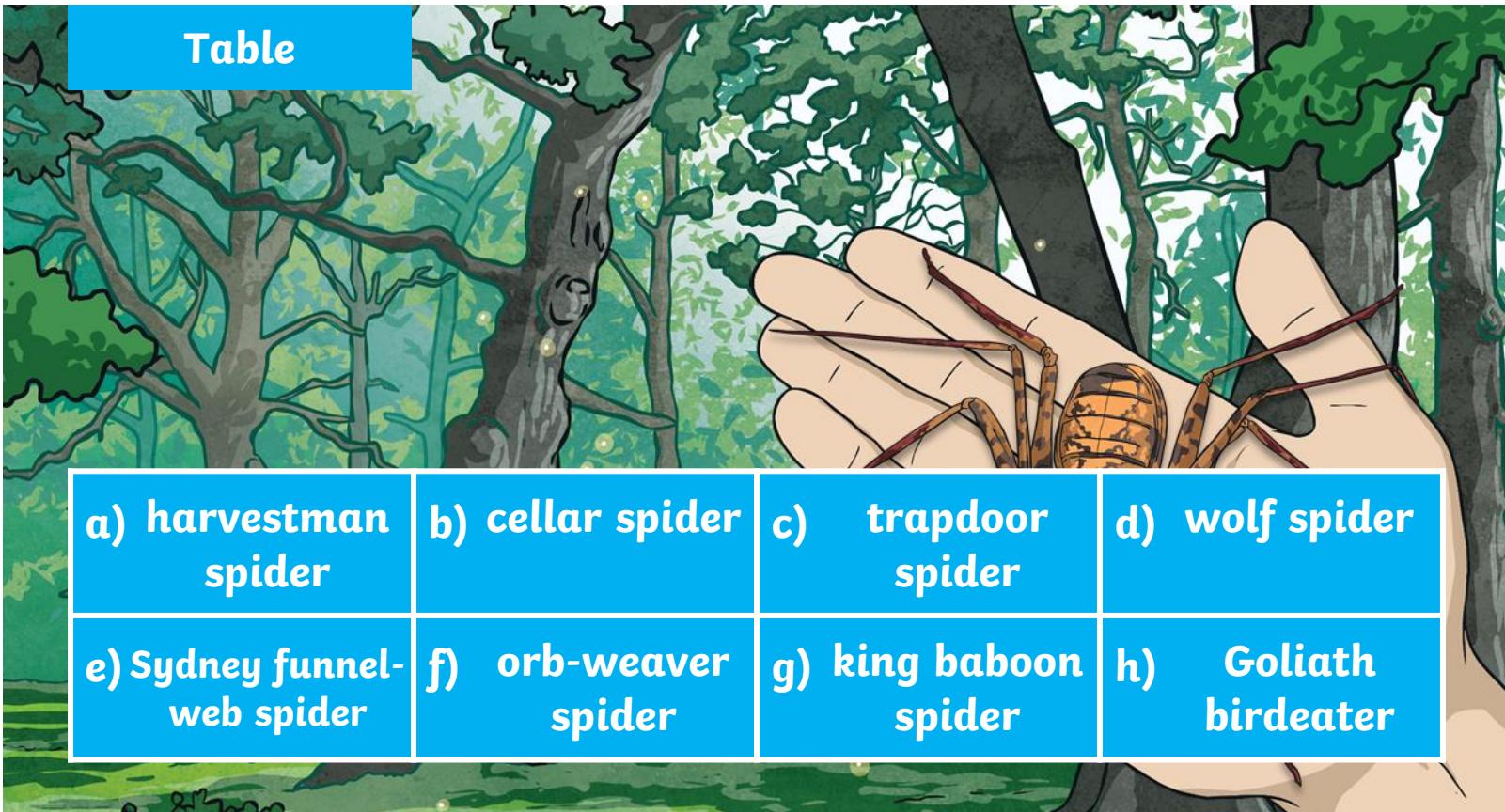


# Spider Size Table

Order the spiders from shortest to longest:

Table

- |                             |                      |                       |                      |
|-----------------------------|----------------------|-----------------------|----------------------|
| a) harvestman spider        | b) cellar spider     | c) trapdoor spider    | d) wolf spider       |
| e) Sydney funnel-web spider | f) orb-weaver spider | g) king baboon spider | h) Goliath birdeater |





# Snake Sizes

After he had completed his project on spiders, Sami decided to study snakes.



**He collected data about  
some of the world's shortest  
and longest snakes.**



# Snake Sizes

There are more than 3000 species of snake in the world.  
Here are the average lengths of some different snake species:

boa constrictor 213cm	blind snake 32cm
puff adder 115cm	king cobra 4m 86cm
giant anaconda 5m 21cm	black mamba 255cm
reticulated python 3.95m	rattlesnake 1m 85cm



# Snake Sizes

Remember, when comparing or ordering measurements, it is better to ensure that all measurements are written in the same unit.

How many centimetres are in one metre?

$$1\text{m} = 100\text{cm}$$

How do we convert metres to centimetres?

We multiply by 100.

To multiply by 100, each digit moves two places to the left:

hundreds	tens	ones	tenths

8 • 7



# Snake Sizes

Convert these measurements from metres to centimetres.

Metres	Centimetres	Me Cen
2.32m	232cm	2n
5.59m	559cm	5n
4.85m	485cm	4n

There are 100cm in 1m.  
So, for every 1m measured,  
count 100cm.  
How many centimetres  
are there in 6m?

6n

Fill in the last column in  
the table.

What do we do with the 45cm that are left over?  
There aren't enough to make a whole metre.  
We write them as centimetres on their own.

645cm =  
6m 45cm



# Snake Sizes

Remember, when comparing or ordering measurements, it is better to ensure that all measurements are written in the same unit.

How many centimetres are in one metre?

$$1\text{m} = 100\text{cm}$$

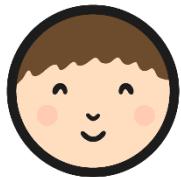
How do we convert centimetres to metres?

We divide by 100.

To divide by 100, each digit moves two places to the right:

hundreds	tens	ones	tenths	hundredths
3	5	1	.	

# Snake Size Table

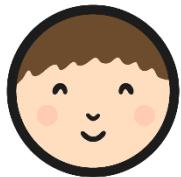


Use what you have learned to complete the **Snake Size Table**.

Average Lengths of Snakes

Snake	Metres	Centimetres	m and cm
giant anaconda	5.21m	521cm	5m 21cm
puff adder	1.15m	115cm	1m 15cm
boa constrictor	2.13m	213cm	2m 13cm
rattlesnake	1.85m	185cm	1m 85cm
black mamba	2.55m	255cm	2m 55cm
king cobra	4.86m	486cm	4m 86cm
blind snake	0.32cm	32cm	0m 32cm
reticulated python	3.95m	395cm	3m 95cm

# Snake Size Table



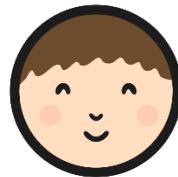
The average length of a Nile crocodile is 4.25m.

Table

Average Lengths of Snakes

Snake	Metres	Centimetres	m and cm
giant anaconda	5.21m	521cm	5m 21cm
puff adder	1.15m	115cm	1m 15cm
boa constrictor	2.13m	213cm	2m 13cm
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blind snake	0.32m	32cm	0m 32cm
reticulated python	3.95m	395cm	3m 95cm

# Converting Metric Measurements of Length



Use your marvellous measurement skills to complete these activity sheets.

**Converting Metric Measurements of Length**

I can convert metric measures involving length.

4) This table shows the average lengths of different species of sea creature. The lengths have been written in three different ways. Complete the table.

Sea Creature	Centimetres	Millimetres	Centimetres and Millimetres
minke whale	100	1000	100 cm
blue whale	200	2000	200 cm
bottlenose dolphin	150	1500	150 cm
sea snake	10	100	10 cm
basking shark	250	2500	250 cm
giant Pacific octopus	100	1000	100 cm
Maui's dolphin	10	100	10 cm
Japanese spider crab	200	2000	200 cm

5) Sort the sea creatures into groups based on their length.

Group	Sea Creatures
Shorter than 3 metres	sea snake, Maui's dolphin
Between 3 and 10 metres	bottlenose dolphin, giant Pacific octopus
Longer than 10 metres	minke whale, blue whale, basking shark

**Converting Metric Measurements of Length**

I can convert metric measures involving length.

1) This table shows the average lengths of different species of insect. The lengths have been written in three different ways. Complete the table.

Insect	Centimetres	Millimetres	Centimetres and Millimetres
giant burrowing cockroach	10	100	10 cm
elephant beetle	100	1000	100 cm
honeybee	1	10	1 cm
giant water bug	20	200	20 cm
Hercules beetle	100	1000	100 cm
tarantula hawk	10	100	10 cm
mountain beaver flea	0.5	5	0.5 cm
giant earwig	15	150	15 cm

2) Use < or > to compare the lengths of the insects.

Insect	Length
giant water bug	20 cm
Hercules beetle	100 cm
mountain beaver flea	0.5 cm
tarantula hawk	10 cm

3) Order all eight insects from shortest to longest.

Order	Insect
a)	elephant beetle
b)	giant earwig
c)	giant water bug
d)	honeybee
e)	mountain beaver flea
f)	tarantula hawk
g)	giant burrowing cockroach
h)	Hercules beetle

## Converting Metric Measurements of Length

I can convert metric measures involving length.

1) This table shows the average lengths of different species of reptile. The lengths have been written in three different ways.

a) Complete the table.

Insect	Centimetres	Millimetres	Centimetres and Millimetres
Reptile			
giant burrowing cockroach	10	100	10 cm
saltwater crocodile	100	1000	100 cm
American alligator	100	1000	100 cm
green sea turtle	100	1000	100 cm
giant tortoise	100	1000	100 cm
Komodo dragon	100	1000	100 cm
reticulated python	100	1000	100 cm
mountain beaver flea	0.5	5	0.5 cm
loggerhead sea turtle	100	1000	100 cm
Galápagos tortoise	100	1000	100 cm

b) The average length of an elephant beetle is 100 cm. Sort the reptiles into the correct order of length.

Sort the reptiles into the correct order of length.

Shorter than a bottlenose dolphin

Shorter than a mountain beaver flea

Shorter than a tarantula hawk

Shorter than a giant water bug

Shorter than a giant burrowing cockroach

Shorter than a Komodo dragon

Shorter than a saltwater crocodile

Shorter than a green sea turtle

Shorter than a loggerhead sea turtle

Shorter than a Galápagos tortoise

Shorter than a giant tortoise

Shorter than an American alligator

Shorter than a saltwater crocodile

Shorter than a Komodo dragon

Shorter than a giant burrowing cockroach

Shorter than an elephant beetle

Shorter than a giant water bug

Shorter than a honeybee

Shorter than a mountain beaver flea

Shorter than a tarantula hawk

Shorter than a giant earwig

Shorter than a Hercules beetle

Shorter than a honeybee

Shorter than a giant water bug

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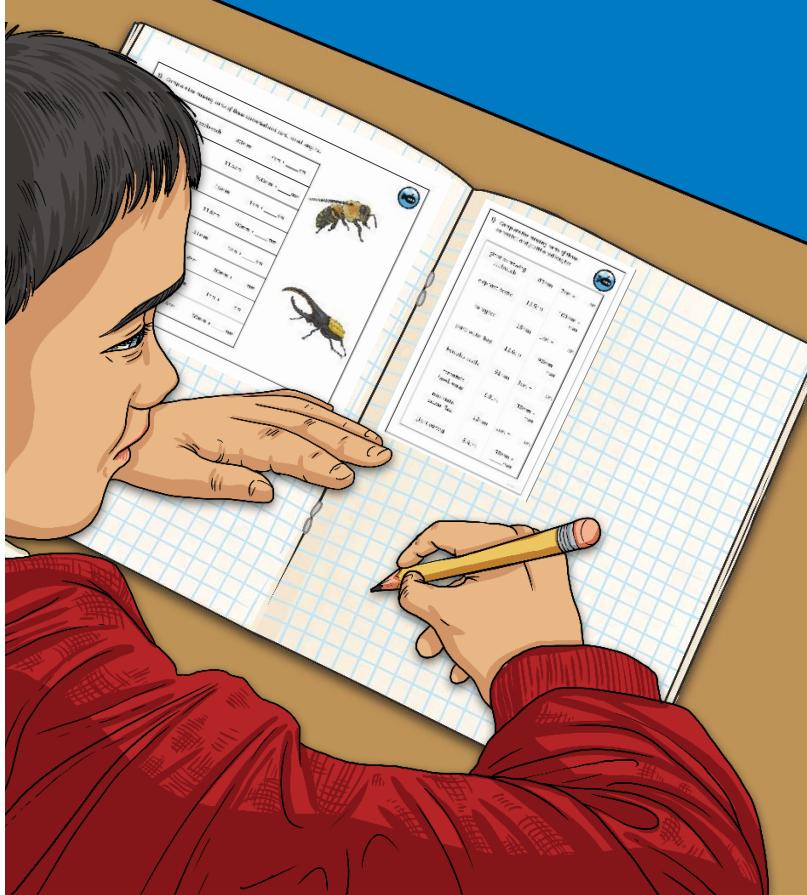
Shorter than a Hercules beetle

Shorter than a giant earwig

Shorter than a Hercules

## Diving into Mastery

Dive in by completing your own activity!



1) Complete the missing parts of these converted and partitioned lengths.

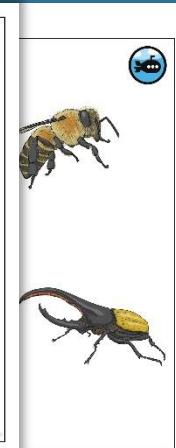
giant burrowing cockroach	83mm	$7\text{cm} + \underline{\hspace{1cm}}$
elephant beetle	11.5cm	$100\text{mm} + \underline{\hspace{1cm}}$
honeybee	15mm	$1\text{cm} + \underline{\hspace{1cm}}$
giant water bug	11.6cm	$90\text{mm} + \underline{\hspace{1cm}}$
Hercules beetle	51mm	$3\text{cm} + \underline{\hspace{1cm}}$
tarantula hawk wasp	6.8cm	$30\text{mm} + \underline{\hspace{1cm}}$
mountain beaver flea	12mm	$1\text{cm} + \underline{\hspace{1cm}}$
giant earwig	8.4cm	$50\text{mm} + \underline{\hspace{1cm}}$

- 1) A honeybee flies from flower to flower in a garden.
- 
- The diagram shows a honeybee flying from a red flower to a white flower, then to a red flower. The distance between the red flower and the white flower is labeled as 4080mm. The distance between the white flower and the second red flower is labeled as 4.8m. A dashed line connects the two red flowers, with a label of 4m above it and 0.008km below it.
- The distance from the honeybee to the white flower is 72mm further than the distance from the white flower to the red flower. Is this statement true or false? Explain your answer.
  - Write two true statements and one false statement about this diagram. Can your partner identify the incorrect statement?
  - A group of Hercules beetles are in a straight line. Each beetle is 51mm in length and the total length of the line is 0.51m. There are 100 beetles in the line. Do you agree with this statement? Explain your answer fully.

1) Complete the missing parts of these converted and partitioned lengths.

giant burrowing cockroach	83mm	$7\text{cm} + \underline{\hspace{1cm}}$
elephant beetle	11.5cm	$100\text{mm} + \underline{\hspace{1cm}}$
honeybee	15mm	$1\text{cm} + \underline{\hspace{1cm}}$
giant water bug	11.6cm	$90\text{mm} + \underline{\hspace{1cm}}$
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giant earwig	8.4cm	$50\text{mm} + \underline{\hspace{1cm}}$

- 1) A honeybee flies from flower to flower in a garden.
- 
- The diagram shows a honeybee flying from a red flower to a white flower, then to a red flower. The distance between the red flower and the white flower is labeled as 4080mm. The distance between the white flower and the second red flower is labeled as 4.8m. A dashed line connects the two red flowers, with a label of 4m above it and 0.008km below it.
- The distance from the honeybee to the white flower is 72mm further than the distance from the white flower to the red flower. Is this statement true or false? Explain your answer.
  - Write two true statements and one false statement about this diagram. Can your partner identify the incorrect statement?
  - A group of Hercules beetles are in a straight line. Each beetle is 51mm in length and the total length of the line is 0.51m. There are 100 beetles in the line. Do you agree with this statement? Explain your answer fully.





# Spiders and Snakes

Here are the average lengths of some spiders and snakes.  
Order them from shortest to longest.

reticulated  
python  
3.95m

puff adder  
115cm

orb-weaver  
spider  
38 mm

king baboon  
spider  
8cm 7mm

blind snake  
32cm

Goliath  
bird-eater  
11.9cm

shortest ← → longest

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# Aim

- I can convert metric measures involving length.

## Success Criteria

- I can convert from millimetres to centimetres and vice versa.
- I can convert from centimetres to metres and vice versa.
- I can compare and order mixed metric measurements of length.



twinkl